

WHAT IS CLAIMED IS:

1. A method of cementing within a wellbore, comprising:

5 introducing a cement slurry comprising a hydraulic cement base and a natural mineral fiber into said wellbore; and

allowing said cement slurry to cure within said wellbore to form a hardened cement composition within said wellbore;

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wherein a temperature of at least a first portion of said well bore is greater than about 180°F;

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wherein said natural mineral fiber is present in said cement slurry in an amount greater than about 10% by weight of cement, and is also present in said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.35 at said temperature of said at least a first portion of said well bore that is greater than about 180°F; and

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wherein said natural mineral fiber comprises at least one calcium silicate natural mineral fiber.

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2. The method of claim 1, wherein said calcium silicate natural mineral fiber comprises at least one of wollastonite, pyrophyllite, algamatolite, or a mixture thereof.

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3. The method of claim 1, wherein a temperature of said at least a first portion of said well bore is greater than about 200°F; and wherein said natural mineral fiber is

present in said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.35 at said temperature of said at least a first portion of said wellbore that is greater than about 200°F.

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4. The method of claim 1, wherein a temperature of said at least a first portion of said well bore is greater than about 240°F; and wherein said natural mineral fiber is present in said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.35 at said temperature of said at least a first portion of said wellbore that is greater than about 240°F.

10 5. The method of claim 1, wherein a temperature of said at least a first portion of said well bore is greater than about 380°F; and wherein said natural mineral fiber is present in said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.5 at said temperature of said at least a first portion of said wellbore that is greater than about 380°F.

15 6. The method of claim 1, wherein said natural mineral fiber is present in said cement slurry in an amount selected to be effective to result in at least a portion of said 25 cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 50% higher than the ratio of flexural strength to compressive strength of a cured conventional cement composition having substantially the same composition, but without said natural mineral fiber component, at said temperature of said at least a first portion of said wellbore that is greater than about 30 180°F.

7. The method of claim 1, wherein a temperature of said at least a first portion of said well bore is less than about 180°F when said cement slurry is introduced into said wellbore and allowed to cure; and further comprising allowing the temperature of said at least a first portion of said wellbore to rise above about 180°F; wherein said natural mineral fiber is present in said cement slurry in an amount selected to be effective to result in an increase in the compressive strength of at least a portion of said cured cement composition when said temperature of said at least a first portion of said wellbore is allowed to rise above about 180°F.

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8. The method of claim 1, wherein said natural mineral fiber is present in said cement slurry in an amount of from greater than about 10% by weight of cement to about 150% by weight of cement.

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9. The method of claim 1, wherein said well bore is a geothermal well or a steam injection well.

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10. The method of claim 1, wherein said hydraulic cement base comprises Portland Cement.

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11. A method of cementing within a wellbore, comprising:

introducing a cement slurry comprising a hydraulic cement base and wollastonite into said wellbore; and

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allowing said cement slurry to cure within said wellbore to form a hardened cement composition within said wellbore;

wherein a temperature of at least a first portion of said well bore is greater than about 180°F;

5 wherein said wollastonite is present in said cement slurry in an amount greater than about 10% by weight of cement, and is also present in said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.35 at said 10 temperature of said at least a first portion of said well bore that is greater than about 180°F.

12. The method of claim 11, wherein said hydraulic cement base comprises Portland
15 Cement.

13. The method of claim 12, wherein a temperature of said at least a portion of said well bore is greater than about 200°F; and wherein said wollastonite is present in said 20 cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.35 at said temperature of said at least a first portion of said wellbore that is greater than about 200°F.

25 14. The method of claim 12, wherein a temperature of said at least a portion of said well bore is greater than about 240°F; and wherein said wollastonite is present in said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that 30 is greater than or equal to about 0.35 at said temperature of said at least a first portion of said wellbore that is greater than about 240°F.

15. The method of claim 12, wherein a temperature of said at least a first portion of said well bore is greater than about 380°F; and wherein said wollastonite is present in
5 said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.5 at said temperature of said at least a first portion of said wellbore that is greater than about 380°F.

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16. The method of claim 12, wherein said wollastonite is present in said cement slurry in an amount selected to be effective to result in at least a portion of said cured cement composition having a ratio of flexural strength to compressive strength that is greater than or equal to about 50% higher than the ratio of flexural strength to compressive
15 strength of a cured conventional cement composition having substantially the same composition, but without said wollastonite component, at said temperature of said at least a first portion of said wellbore that is greater than about 180°F.

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17. The method of claim 12, wherein a temperature of said at least a first portion of said well bore is less than about 180°F when said cement slurry is introduced into said wellbore and allowed to cure; and further comprising allowing the temperature of said at least a first portion of said wellbore to rise above about 180°F; wherein said wollastonite is present in said cement slurry in an amount selected to be effective to result in an
25 increase in the compressive strength of at least a portion of said cured cement composition when said temperature of said at least a first portion of said wellbore is allowed to rise above about 180°F.

18. The method of claim 12, wherein said wollastonite is present in said cement slurry in an amount of from greater than about 10% by weight of cement to about 150% by weight of cement.

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19. The method of claim 12, wherein said well bore is a geothermal well or a steam injection well.

10 20. A fiber-containing cement composition, comprising a hydraulic cement base and a natural mineral fiber; wherein said natural mineral fiber is present in an amount greater than about 10% by weight of cement; wherein said natural mineral fiber is also present in said fiber-containing cement composition in an amount selected to be effective so as to result in a cement slurry and a cured cement composition formed from said cement slurry
15 having a ratio of flexural strength to compressive strength that is greater than or equal to about 0.35 when said cement slurry is exposed to a temperature of greater than about 180°F; and wherein said natural mineral fiber comprises at least one calcium silicate natural mineral fiber.

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21. The fiber-containing cement composition of claim 20, wherein said calcium silicate natural mineral fiber comprises at least one of wollastonite, pyrophillite, algamatolite, or a mixture thereof.

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22. The fiber-containing cement composition of claim 20, wherein said calcium silicate natural mineral fiber comprises wollastonite.

30 23. The fiber-containing cement composition of claim 22, wherein said hydraulic cement base comprises Portland Cement.